



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
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Seattle, WA 98115

Refer to:
OSB1999-0120

June 17, 1999

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Re: Section 7 Consultation on Actions Affecting Oregon Coast Coho Salmon and Oregon Coast Steelhead

Dear Managers:

This responds to your January 4, 1999, and March 10, 1999, letters (from Coos Bay and Medford Bureau of Land Management Districts, respectively) requesting that specific conference opinions (CO) be adopted as biological opinions (BO) on the effects of proposed actions on Oregon Coast coho (OC coho) salmon and Oregon Coast steelhead (OC steelhead). The NMFS listed the OC coho salmon Evolutionarily Significant Unit (ESU) as threatened under the Endangered Species Act (ESA) on August 10, 1998 (63 FR 42587), with an effective date of October 9, 1998. Critical habitat for this ESU was proposed on May 10, 1999 (64 FR 24998). On March 19, 1998 (63 FR 13347), the NMFS determined that the OC steelhead ESU did not warrant listing under the ESA but considers this ESU to be a candidate species. It was indicated in the letters that the BLM believes that the National Marine Fisheries Service (NMFS) prepared the subject COs in conjunction with two BOs and a concurrence letter on the effect of the proposed actions on Umpqua River cutthroat trout (UR cutthroat).

We replied to your January 4 and March 10, 1999, letters with a letter dated April 13, 1999, in which we stated that the relevant COs would serve as BOs. Subsequent to the issuance of the April



13, 1999 letter, we discovered that the primary BO at issue (dated September 26, 1996) cannot be considered a CO for OC coho salmon. Although it is clear that the biological assessments (BAs) prepared by the Bureau of Land Management (BLM) described the effects of the proposed actions on UR cutthroat, OC coho salmon, and OC steelhead, and that the NMFS' ensuing September 9, 1996, concurrence letter for the "not likely to adversely affect" actions agreed that the effects of the actions on all three species would be the same, the September 26, 1996, BO did not specifically mention OC coho salmon or OC steelhead. While it is clear that the omission of CO language for these two species from the September 26, 1996 BO was inadvertent, we are nonetheless withdrawing our April 13, 1999, CO "rollover" for OC coho salmon, and are preparing the appropriate documentation for ESA section 7 consultation on actions described in your January 4 and March 10, 1999, letters.

In this consultation, we have evaluated timber sales which the BLM determined are "likely to adversely affect" OC coho salmon. The proposed actions are Mose 15 Commercial Thinning, Sagaview Regeneration Harvest (Coos Bay BLM District), Mules Brew, and McLawson (Medford BLM) timber sales. In addition to the project descriptions provided in BAs written in 1996, supplemental information was provided describing the environmental baseline and the effects of the four actions. We consider actions which have taken place prior to the issuance of this consultation to be a part of the environmental baseline for the respective watersheds. We will address all four of these actions in this consultation, the purpose of which is to document in our BO that the proposed actions are not likely to jeopardize the continued existence of OC coho salmon or OC steelhead. This consultation is conducted under section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402.

The NMFS has adopted a habitat-based jeopardy analysis (NMFS 1997a, 1997b, and 1997c). OC coho salmon and OC steelhead habitat is completely overlapped by that of UR cutthroat in these proposed actions. BLM personnel made the effects determinations in the 1999 supplemental information by following the procedures described by NMFS (1997a, 1997b, and 1997c). The effects of the individual actions proposed in the BA were evaluated by BLM biologists at the project scale using criteria based upon the biological requirements of UR cutthroat, OC coho salmon, OC steelhead and other potentially affected anadromous salmonids and the Aquatic Conservation Strategy

(ACS) objectives of the Northwest Forest Plan (USDA and USDI 1994). The BLM biologists also evaluated the likely effects of the proposed actions on the watershed scale and in the long-term in the context of watershed processes. The Level 1 consultation teams for the Coos Bay and Medford BLM Districts have defined "long-term" for ESA consultation purposes to be a decade, while short-term effects would occur for a lesser period (most typically a few months to a few years). The Level 1 consultation team for the Umpqua Basin met several times to review the BLM's effect determinations for the subject actions. The team members concurred with the BLM's ESA effects determinations.

Proposed Actions

The proposed actions would occur in the Upper Smith River and Middle Umpqua River fifth field hydrologic unit code watersheds (HUCs)¹ of the Mainstem Umpqua River; and the Middle Cow Creek and West Fork Cow Creek Little River fifth field HUC of the South Umpqua River, in Douglas County, Oregon. In the Upper Smith River watershed (a fifth field HUC will be considered a "watershed" for consultation purposes), the Mose 15 Commercial Thin timber sale (Mose 15) is proposed for the Upper Lower Smith River sixth field HUC and the Mosetown Creek seventh field HUC. In the Middle Umpqua River watershed, the Sagaview timber sale (Sagaview) is proposed for the Luchsinger Creek and Wells Creek sixth field HUCs. In the Middle Cow Creek watershed, the McLawson timber sale (McLawson) is proposed for the Windy Creek sixth field HUC, while the Mules Brew timber sale (Mules Brew) is proposed for the Wilson Creek sixth field HUC. Environmental Assessments (EAs) and other documents, which were provided to NMFS for this consultation, have detailed information on each of the actions but brief summaries are provided below.

¹ Stream drainages can be arranged in nested hierarchies, in which a large drainage is composed of smaller drainages. The BLM uses a system in which these drainages are numbered in a computer data base for analytical purposes. The numerical identifier of a particular drainage in this data base (which is located in a specific column or "field" in the data base) is called its hydrologic unit code, or HUC. This HUC increases with decreasing drainage area, thus a fourth field HUC (such as the Mainstem Umpqua River) is composed of several fifth field HUCs (such as the Middle Umpqua River, Upper Smith River, etc.), and so on. The Northwest Forest Plan determined that the scale for Watershed Analyses should be 20 to 200 square miles, which often corresponds to a fifth field HUC.

The BLM proposes to commercially thin from below, approximately 288 Matrix and 62 riparian reserve (RR) acres in the Mosetown Creek drainage of a non-Key Watershed portion of the Upper Smith River watershed using a one-end and full suspension cable-yarding system. About 30% of the harvest had been completed by June 1, 1999 (Bill Hudson, Fisheries Biologist, Coos Bay BLM, person. comm., June 1, 1999). The thinning would occur in two units of 36-year-old Douglas-fir. The harvest would reduce stand density from about 184 trees per acre to roughly 100 trees per acre which would reduce (temporarily) the existing 80-90% crown closure to approximately 60%. Although RR would be thinned, a 70-foot no-cut buffer on the RR for the East Fork of Mosetown Creek would be maintained, other streams of 2nd order or larger would receive 50-foot no-cut buffers, but first order streams would not be buffered from thinning. Yarding would avoid perennial streams but the BLM proposes to yard some timber perpendicularly through non-fishbearing ephemeral/intermittent stream channels. Almost all (80-90%) timber yarding across stream channels would be full-suspension, but a few stream crossings would be one-end suspension.

Prior to the listing of OC coho salmon, the BLM constructed 1.3 miles of semi-permanent ridgetop road²; the BLM proposes to construct another 800 feet of temporary ridgetop road. In addition, the BLM will decommission an existing 0.7 mile valley-bottom dirt road presently located in RRs. Decommissioning includes the following measures, which would not leave a driveable surface: Removing culverts and reshaping stream channel crossings, ripping and vegetatively restoring road surfaces, and recontouring the road prism to natural hill slopes. None of the new road construction would occur in RRs.

² Semi-permanent roads are constructed for use during a multi-year project period, but are removed (decommissioned) upon completion of the project. Temporary roads are built for use during a single year construction period, and are removed (decommissioned) during the same year they are constructed.

Sagaview

The BLM proposes to conduct a regeneration harvest and cable-yard 145 Matrix acres of old-growth timber in the Middle Umpqua River non-Key Watershed. However, only 118 acres of this harvest remained by the date that the OC coho salmon ESA listing became effective, and only about 7 acres remained to be harvested and 17 additional acres remained to be yarded on June 8, 1999 (Dan Van Slyke, Fisheries Biologist, Coos Bay BLM, person. comm., June 8, 1999). Full RR buffers (i.e., one site-potential tree height) were placed on the harvest units. Full-suspension cable yarding occurred through the RR of some of the non-fishbearing streams in a unit that has already been felled and yarded. Approximately 4,100 feet of semi-permanent road was constructed prior to October 9, 1998, none of which was in the RR. No additional road construction is planned for this sale.

McLawson

This sale is located within the Middle Cow Creek non-Key Watershed. Approximately 217 Matrix acres of commercial thinning from below (leaving 50-60% canopy closure) and 5 Matrix acres of regeneration harvest were proposed in this action. About 70% of the thinning acreage had been felled by June 1, 1999. Yarding would be by one-end suspension cable. None of the harvest would occur within the 200-foot RR buffers established on the non-fishbearing streams within the sale units. About 0.55 miles of new permanent ridgetop road and 0.15 miles of semi-permanent road was constructed prior to the listing of OC coho salmon. Approximately 7.5 miles of road renovation was also completed for the sale. Road renovation consists of repairing and resizing culverts to pass 100-year flood events, adding additional drainage structures to reduce stream channel extension, and reshaping and resurfacing when necessary. No road construction or timber harvest occurred or would occur within RR.

Mules Brew

In West Fork Cow Creek, a Tier 1 Key Watershed, the BLM proposes a regeneration harvest of 38 Matrix acres of old growth timber and to treat 16 adjacent RR acres to establish multi-storied stands of conifers. About 40% of the yarding would be by one-end suspension cable while the remainder would be yarded by crawler tractor. The RR treatment would consist of slashing and burning of the brush and small hardwoods that dominate the RR of two non-fishbearing streams, after which the areas would be planted with conifers. Vegetation would be treated no closer than 30 feet from the stream channels, no conifers or large hardwoods would be harvested, and 3 to 4 larger hardwoods per acre would be retained. Slash would be hand-piled and burned in two units and broadcast burned in one unit. No permanent road would be constructed while 4.8 miles of road would be renovated and 0.4 miles of existing road would be used for the sale and then decommissioned.

Biological Information and Critical Habitat

The biological requirements, including the elements of critical habitat, of each of the ESUs are discussed in NMFS (1997b and 1997c). Environmental baseline conditions in the Umpqua Basin are discussed in Johnson et al. (1994), pages 2-7 of NMFS (1997c) and pages 13-14 of NMFS (1997b). Cumulative effects, as defined under 50 CFR 402.02, are discussed for the Umpqua Basin on pages 40-43 of NMFS (1997b). These respective analyses are incorporated herein by this reference. NMFS is not aware of any new information that would materially change these previous analyses of biological requirements, environmental baseline or cumulative effects for the purpose of this Opinion. Some general biological information is provided below.

OC coho salmon are an anadromous species which typically have a three-year life-cycle and historically occurred in all four subject watersheds. Adult OC coho salmon spawn in late fall and winter, with fry emergence occurring the following spring. Juvenile coho salmon rear for about a year in natal streams and then outmigrate to the ocean as smolts in the spring. Some male coho salmon return to freshwater to spawn the fall and winter of the same year as their smolt migration, but the majority of

adult OC coho salmon do not return to spawn until having spent about 18 months in the ocean. Thus, an active OC coho salmon stream would be used for some life-stage (rearing, feeding, spawning, and incubation habitat) year-round.

OC steelhead may exhibit anadromy or freshwater residency. Resident forms are usually referred to as “rainbow trout,” while anadromous life forms are termed “steelhead;” both forms likely occur in all four subject watersheds. Steelhead typically migrate to marine waters as smolts in the spring after spending two years in freshwater. They then reside in marine waters for two to three years prior to returning to their natal stream to spawn as 4- or 5- year-olds. Unlike salmon, steelhead do not necessarily die after spawning and may survive to spawn two or more times. Most or all adult steelhead in the four subject watersheds likely enter freshwater in late fall or early winter and spawn in late winter to early spring. Accordingly, as with OC coho salmon, an active OC steelhead stream would be used for some life-stage (rearing, feeding, spawning, and incubation habitat) year-round.

The Medford BLM's West Fork Cow Creek Watershed Analysis (WA) (BLM 1997) states that approximately 34 miles of stream in this watershed are inhabited by OC coho salmon and 40.2 miles are inhabited by OC steelhead. The equivalent stream mileage documented in the Middle Cow Creek WA (BLM 1998b) for these species is 77 and 81. The Coos Bay BLM's Lower Umpqua Frontal (a portion of the Middle Umpqua River watershed) and Oxbow (a portion of the Upper Smith River watershed) WAs (BLM 1995a and BLM 1995b, respectively) do not list the mileage of streams in these drainages inhabited by anadromous or resident salmonids, but the reports do document that OC coho salmon and OC steelhead are present and dozens of miles of habitat are likely available for these species.

Although general information about the populations of OC coho salmon and OC steelhead within the Middle Umpqua River, Upper Smith River, Middle Cow Creek, and West Fork Cow Creek watersheds is available (e.g., those streams likely inhabited, see above), specific information on the size and health of anadromous fish populations in the Umpqua Basin is often lacking or incomplete. Because of the general paucity of the type of knowledge which would allow the BLM and NMFS to

assess the relative health of anadromous salmonid populations on a stream or watershed scale, and the fact that all fish species, populations, and individuals depend on adequate habitat, the NMFS uses a habitat-based system in ESA consultation on land-management activities (NMFS 1997c). The NMFS has applied the concept of properly functioning habitat condition to assess the quality of the habitat that fish need to survive and recover. This concept is discussed in the next section.

Site-specific environmental baseline descriptions and effects determinations were made by BLM personnel for each of the proposed timber sales. This information is found in the project-level (sixth or seventh field HUC) Matrices of Pathways and Indicators which were included in the BA. In addition, watershed-level information on anadromous fish habitat is provided in the fifth field Matrices of Pathways and Indicators which were also included in the supplemental BA information. The NMFS concurred with these project and watershed-scale environmental baseline descriptions and effects determinations (exceptions are noted below) in the streamlined consultation process and NMFS considered them in addition to the broad scale analysis conducted for NMFS (1997b).

Evaluation of Proposed Actions

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by the consultation regulations (50 CFR 402). NMFS (1997a) describes how NMFS applies the ESA jeopardy and destruction/adverse modification of critical habitat standards to consultations for Federal land management actions in the Umpqua River basin.

As described in NMFS (1997a), the first steps in applying the ESA jeopardy standard is to define the biological requirements of OC coho salmon and OC steelhead and to describe the species' current status as reflected by the environmental baseline. In the next steps, NMFS' jeopardy analysis considers how proposed actions are expected to directly and indirectly affect specific environmental factors that define properly functioning aquatic habitat essential for the survival and recovery of the species. This analysis is set within the dual context of the species' biological requirements and the existing conditions under the environmental baseline (defined in NMFS 1997c). The analysis takes into

consideration an overall picture of the beneficial and detrimental activities taking place within the action area, which is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). If the net effect of the activities is found to jeopardize the listed species, then NMFS must identify any reasonable and prudent alternatives to the proposed action.

Biological Requirements. For this consultation, NMFS finds that the biological requirements of OC coho salmon and OC steelhead are best expressed in terms of current population status and environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of the species. The NMFS defines this "properly functioning" condition as the state in which all of the individual habitat factors operate together to provide a healthy aquatic ecosystem that meet the biological requirements of the fish species of interest. Individual, measurable habitat factors (or indicators) have been identified (e.g., water temperature, substrate, etc.), and the properly functioning values for these indicators have been estimated using the best information available. These indicators, when considered together, provide a summary of the conditions necessary to ensure the long-term survival of aquatic species.

The NMFS has assembled a set of these indicators in a form called the Matrix of Pathways and Indicators (MPI) (NMFS 1996). The MPI is a table that lists several categories or "pathways" of essential salmonid habitat, such as water quality, instream habitat elements, and flow/hydrology. Under these pathways are quantitative habitat indicators for which ranges of values are identified that correspond to a "properly functioning" condition, an "at risk" condition, and a "not properly functioning" condition. Because these habitat measurements are more readily available than quantitative measurements of biological variables such as incubation success, standing crop, and growth rate, the NMFS and BLM are able to assess the health of stream reaches or watersheds based on the condition of their component indicators. Such an assessment provides a baseline description of the health of the stream/watershed, and also allows the effects of an action (e.g., a timber sale) to be evaluated.

Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of the listed species. It follows then that the NMFS has determined that an action which would cause the habitat indicators of a watershed to move to a degraded condition, or one which further degrades a "not properly functioning" watershed, is also likely to jeopardize the continued existence of the listed species.

In addition to the use of the MPI at the watershed level to assist in making "jeopardy" determinations in Section 7 consultations (especially for land management agencies), the NMFS also uses the MPI at the site or project scale. Assuming that a Federal agency determines that an action is a "may affect," either informal or formal consultation is required. To assist in this determination, the action agency prepares a project-level MPI. If no "degrades" occur at this scale, then the action is probably not likely to adversely affect individuals of a listed species, and an informal Section 7 consultation is appropriate. If the proposed action degrades any of the indicators at this smaller scale (often the sixth or seventh field HUC), then the action is generally considered to be a "likely to adversely affect," and formal consultation must occur.

Current range-wide status of listed species under environmental baseline. NMFS described the current population status of OC coho salmon in a status review (Weitkamp et al. 1995), and in the final listing rule (August 10, 1998, 63 FR 42587). The effective listing date for OC coho salmon was October 10, 1998. Critical habitat for this ESU was proposed on May 10, 1999 (64 FR 24998). The recent range-wide status of OC coho salmon and OC steelhead is also summarized in NMFS (1997c). The current population status of OC steelhead was also described in Busby et al. (1996), and in the final rule in which NMFS determined that the status of the ESU did not warrant listing (March 19, 1998, 63 FR 13347).

Current status of listed species under environmental baseline within the action areas. As noted above, the action area includes all areas directly or indirectly affected by the proposed action. The general action areas for this BO can be defined as the Middle Umpqua River, Upper Smith

River, Middle Cow Creek, and West Fork Cow Creek watersheds. As noted above, OC coho salmon and OC steelhead use the action areas for rearing, feeding, spawning, incubation, and migration. The environmental baseline of the action areas are dominated by conditions rated largely as "not properly functioning" or "at risk" (see watershed MPIs in BA). These conditions are primarily the result of past forest management (pre-Northwest Forest Plan) and agricultural practices such as timber harvest/clearing within riparian zones, large-scale clear-cut timber harvest, road construction (especially within riparian zones), and timber yarding in riparian zones and streams.

Indicators particularly at issue in this consultation are those which would likely be degraded by the proposed actions at the project scale, although the NMFS has also reviewed the BLM's "maintain" and "restore" effects determinations. For the projects reviewed in this biological opinion, "sediment/turbidity" or "turbidity" was determined to be degraded at the project scale by each of the four actions. The "substrate" and "disturbance history" indicators were thought to be degraded by two of the actions at the project scale, while the "RR" and "road density and location" indicators were each thought to be degraded at the project scale by one of the proposed actions. For the indicator baselines at the watershed scale, the "sediment" or "turbidity" indicators were listed as "not properly functioning" or "at risk" for all four watersheds. The "substrate" baseline was rated as "at risk" for both watersheds in which "substrate" was listed as a project-level "degrade" and the "disturbance history" indicator was listed as "not properly functioning" in the two watersheds where that indicator was listed as a project-level "degrade." Similarly, the "RR" and "road density and location" watershed baselines were listed as "not properly functioning" in the watersheds where proposed activities were thought to degrade those indicators at the project scale.

Based on the best available information on the current status of OC coho salmon (Weitkamp et al. 1995, NMFS 1997c, final listing rule), NMFS assumptions given the available information regarding population status, population trends, and genetics (Weitkamp et al. 1995, NMFS 1997a, final listing rule), and the relatively poor environmental baseline conditions within the action areas (see MPIs in BA and UR cutthroat and OC coho salmon final listing and proposed critical habitat rules),

NMFS finds that the environmental baseline does not currently meet all of the biological requirements for the survival and recovery of the listed species within the action area. Actions that do not retard attainment of properly functioning aquatic conditions, when added to the environmental baseline, are necessary to meet the needs of the species for survival and recovery.

Analysis of Effects

The effects determinations in this Opinion were made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting the effects of the actions on them. This process is described in the document "Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale" (NMFS 1996). This assessment method (in which MPIs are assembled by action agency biologists) was designed for the purpose of providing information in a tabular form for NMFS to determine the effects of actions subject to consultation.

The BLM uses the MPI to make project-level effects determinations: whether an action is "not likely to adversely affect" (NLAA) or "likely to adversely affect" (LAA) the ESA-listed species (in this case, OC coho salmon). If any of the indicators are thought to be degraded at the project level by the action, the action is determined to LAA. In turn, if a project was determined to LAA the ESA-listed species, then, based on the criteria for evaluating "jeopardy" described in NMFS (1997b), the BLM determines whether the project, when combined with the environmental baseline for the watershed over the long-term, is consistent with the ACS of the Northwest Forest Plan. This "consistency" is condensed to a two-part test in NMFS (1997a, pg. 14): Is the proposed action in compliance with the standards and guidelines for the relevant land allocation, and does the proposed action meet all pertinent ACS objectives? The ACS objective consistency determination is made with the assistance of the MPI at the watershed scale.

Project-Level Effects.

In this consultation, the BLM provided a project-level MPI for each of the proposed actions. The BLM-provided MPIs for the effects of actions are expressed in terms of the expected effect ("restore," "maintain," or "degrade") on aquatic habitat factors in the project area for each sixth field HUC (or other project-level spatial scale) affected by the proposed actions. The results of the completed checklist for the proposed action provide a basis for determining the effects of the action on the environmental baseline in the project area. In general, the BLM determined that the actions would not degrade indicators at the project level chiefly because of the maintenance/enhancement of the riparian zones.

Mose 15

The BLM used the Mosetown Creek seventh field HUC as the spatial scale for its project-level MPI. For Mose 15, the BLM found that on the project level, the "turbidity" indicator would be degraded as a result of the action; all other indicators would be maintained. The BLM attributes the "degrade" checkmark for "turbidity" to a transitory and localized increase in stream sedimentation as a result of the short-term cumulative effects of soil disturbance and surface erosion associated with ground-based timber yarding (especially in RR) and road decommissioning. In Mose 15, as well as the other timber sales and road-related actions in this Opinion, RR buffers, yarding techniques, and/or road construction and maintenance techniques should prevent most (if not all) of the ground-disturbing activities from transmitting substantial amounts of sediment into stream channels.

While the proposed harvest would decrease canopy cover, and thus vegetative hydrologic recovery in the short-term, the thinned stands should quickly (within 5 to 10 years) regain vegetative hydrologic recovery because of enhanced growth of the remaining trees. There should be few, if any, effects on peak streamflows due to thinning because substantial canopy cover would remain and the low-elevation coastal climate of the project area is not prone to rain-on-snow events. In addition, streams in the Tyee

Sandstone physiographic province (where the sale is located), are typically flashy in nature (i.e., prone to rapid and extreme flow fluctuations) because of high rainfall, high soil infiltration rates, and impermeable bedrock (USFS and BLM 1997, BLM 1995b). Thus, any increase in peak flows would likely be within the natural range of variability for the area. The Oxbow WA (BLM 1995b) notes that the action area is subject to landslides, but states that the primary reasons for management-caused landslides are high road densities, poorly designed and located roads, and clearcut harvest. Because none of these actions are relevant to the proposed action, landslide risk should be low. If substantial landslides do occur in the sale units, the no-cut buffers and the density and size of the leave trees should ensure that large woody material will be introduced to streams along with sediment.

On the other hand the thinning and yarding within RR, while beneficial or neutral in effect in the long-term, is likely to degrade the qualities of the RR in the short-term. The NMFS believes that a "degrade" for the RR indicator at the project scale would be appropriate for this sale, but agrees with the BLM that the effects of the action should be minor, transitory, and localized, and should not be transmitted to fish-bearing streams. The NMFS will further address this indicator at the watershed scale.

Because of the presence of the "degrade" checkmark on the project scale, the BLM determined that Mose 15 is LAA OC coho salmon. As noted above, NMFS believes that the RR indicator would also be degraded and concurs with the BLM on the project-level effects determination.

Sagaview.

The BLM combined the Luchsinger and Wells Creek sixth field HUCs as the spatial scale for its project-level MPI. For Sagaview, the BLM found that on the project level, the "turbidity" indicator would be degraded as a result of the action and all other indicators would be maintained. The BLM attributes the "degrade" checkmark for "turbidity" to a transitory increase in stream sedimentation which may result from hauling of logs on a road which parallels Jimmy Creek, a fish-bearing stream to the west of the sale units which is on private land and outside of

the Wells and Luchsinger Creek sixth-field HUCs. However, hauling of logs on a rocked road during the summer is unlikely to generate appreciable turbidity in a nearby stream (because there is little likelihood of substantial rain to transmit sediment to the stream), so the NMFS does not believe that the remaining portion of the proposed sale would constitute a "degrade" at the project scale.

The proposed harvest would decrease canopy cover in the long-term over the remaining 7 acres proposed for harvest (in a tributary to Sagaberd Creek in the Wells Creek sixth field HUC) but the harvest would not occur in the transient snow zone. Additionally, as noted above under Mose 15, Coast Range streams in the Tyee Sandstone physiographic region are naturally flashy and so the decrease in vegetative hydrologic recovery should have little effect on peak streamflows. Also, the first and second order streams which drain the sale unit do not have road crossings or ditchlines which could contribute to peak flows. The Lower Umpqua Frontal WA (BLM 1995a) notes that the action area is subject to landslides, but does not specifically identify the area which includes the units of the Sagaview sale as being particularly vulnerable. The EA for the sale notes that there is a possibility of mid-slope soil failures in the steepest parts of the units. However, if this were to occur, the resulting debris avalanches should be minor and not travel far. There is a lesser possibility of more extensive debris torrents. While no road construction would occur, regeneration harvest may alter soil stability. If substantial landslides do occur in the sale units, the full RR buffers should ensure that large woody material will be introduced to streams along with sediment.

Because the "degrade" checkmark for "turbidity" on the project scale MPI refers to potential occurrences that are no longer likely (i.e., transmission of sediment to a stream along the haul route), the NMFS believes that the portion of the action yet to be completed would NLAA OC coho salmon.

McLawson.

The BLM used the Windy Creek Reach #2 as the indicator reach in the Windy Creek sixth field HUCs as the spatial scale for its project-level MPI. For McLawson, the BLM found that on the project level, the "sediment/turbidity," "substrate," "road density and location," and "disturbance history" indicators would be degraded as a result of the action and that all other indicators would be maintained. The BLM attributes the "degrade" checkmark for "sediment/turbidity" and "substrate" to a transitory increase in stream sedimentation due to the short-term cumulative effects of soil disturbance and surface erosion associated with road work (drainage upgrades, culvert replacement, hauling, etc.). As noted above, RR buffers and/or road construction and maintenance techniques should prevent most (if not all) of the ground-disturbing activities from transmitting substantial amounts of sediment into stream channels. In addition, the road renovation has already been completed and summer hauling should transmit little, if any, sediment to streams. Therefore, NMFS believes that the remaining activities associated with the sale should actually maintain the "sediment/turbidity" and "substrate" indicators at the project scale. Similarly, because the 0.55 miles of new road construction has already occurred, there will be no increase in road density associated with the proposed activities.

The BLM attributes the "degrade" for the "disturbance history" indicator to timber harvest and road construction. As noted above, the road construction has already occurred, as has the majority of the timber harvest. The remaining timber harvest has some potential to increase peak flows in Windy Creek because of reduced canopy cover, and hence, reduced vegetative hydrologic recovery. On the whole, however, the BLM does not believe that hydrologic recovery would be reduced in the short-term (a "maintain" is marked for "peak/base flows"), nor does the BLM believe that "streambank condition" would be altered (another "maintain"). This is because the reduction in vegetative hydrologic recovery in the sale units would be almost entirely short-term (because of the predominant commercial thinning prescription), and vegetative hydrologic recovery is continuing to increase in other previously harvested areas within the subwatershed. Because soils within the harvest units are not considered to be highly sensitive to erosion or movement, the predominant harvest prescription would retain considerable root strength, and full RR buffers would be maintained, there should be little risk of

landslides affecting the non-fishbearing streams adjacent to the units. Thus, while the "disturbance history" indicator would be nominally degraded due to timber harvest, it does not appear that salmonids or salmonid habitat would be adversely affected by the remainder of the sale.

Because of the presence of the "degrade" checkmarks on the project scale, the BLM determined that McLawson is LAA OC coho salmon. The NMFS notes that most of the actions which would degrade the indicators have already occurred, and the final "degrade" is unlikely to adversely affect the listed species or its habitat, even in the short term. Therefore, NMFS believes that the remaining portion of the action is NLAA OC coho salmon.

Mules Brew.

The BLM used the West Fork Cow Creek Reach #7 as the indicator reach in the Wilson Creek sixth field HUC as the spatial scale for its project-level MPI. The BLM found that on the project level, the "sediment/turbidity," "substrate," "disturbance history," and "RR" indicators would be degraded. The BLM attributes the "degrades" checkmarks for "sediment/turbidity" and "substrate" to a transitory increase in stream sedimentation as a result of effects of soil disturbance and surface erosion from road renovation (including culvert replacement), road decommissioning and timber hauling. As noted above, RR buffers and/or road renovation and decommissioning techniques should prevent most (if not all) of the ground-disturbing activities from transmitting substantial amounts of sediment into stream channels. Summer timber hauling should transmit little or no sediment to streams. The BLM checked the "disturbance history" indicator as a "degrade" because of the change in canopy cover associated with the regeneration harvest and the proposed treatment of the RR. The "RR" indicator was also marked as a short-term "degrade" because of the proposed restorative treatment. The reduction in canopy closure associated with the proposed timber harvest and RR treatment would not, however, increase

peak flows in Wilson Creek because the sixth field HUC is currently vegetatively and hydrologically recovered and would remain within the natural range of variation even after the harvest. In addition, based on the West Fork Cow Creek WA (BLM 1997), soil stability does not appear to be a major concern for the sale and treatment units.

Because of the presence of the "degrade" checkmarks at the project scale, the BLM determined that Mules Brew is LAA OC coho salmon. The NMFS concurs with the BLM on this project-level effects determination.

Watershed-Level Effects.

In the BA, the BLM provided watershed-scale MPIs and ACS consistency reviews which evaluated each of the four proposed actions. The watershed-scale MPIs evaluate the effects of the proposed action on habitat indicators in the fifth field HUC relative to the long-term environmental baseline.

While many actions, including those that may be beneficial in the long-term, have short-term, small-scale adverse effects, only those actions with adverse effects that are significant at the watershed scale over a long period would receive a "degrade" checkmark. It is important to realize that both active and passive restoration activities contribute to the environmental baseline. In particular, the passive restoration that will occur over the long-term (at least a decade, see above), especially in RRs, is a principal component of the watershed recovery aspect of the Northwest Forest Plan. The role of RRs, LSRs, etc., in restoration of watersheds is described in the Northwest Forest Plan Record of Decision (USDA and USDI 1994) and in NMFS (1997b).

The ACS consistency reviews included a description of how the proposed projects compared to the applicable Northwest Forest Plan standards and guidelines (S&Gs) for the listed ESUs and how the proposed projects complied with the nine ACS objectives for those ESUs. Because there is strong correspondence between the habitat indicators of the MPI and the ACS objectives, it is likely that if none of the habitat indicators in the watershed level MPI are degraded by an action, then compliance with those ACS objectives relevant to the listed salmon species can also be expected. In the

descriptions below, only those MPI habitat indicators which were determined to "degrade" at the project (usually sixth field HUC) scale are discussed. Whether discussed below or not, information on all of the habitat indicators, relevant S&Gs, and ACS objectives was provided in the BLM's BA and was considered in our analysis.

Upper Smith River Watershed.

For this non-Key watershed, the BLM has proposed to conduct Mose 15, but has determined that all of the habitat indicators would be maintained or restored at the watershed scale, despite the project-level "degrades" for the "turbidity" and "RR" indicators. As noted under "Project-Level Effects" above, the "turbidity" indicator was thought to be degraded as a result of timber yarding and road decommissioning. Per the project-level discussion of Mose 15 above, however, these "degrades" are not thought to be consequential in the long-term, and, in fact, the reduction in active road density should be beneficial. The relatively small amount of sediment that is likely to enter watercourses as a result of the proposed activity would not likely be distinguishable from background natural sedimentation and sedimentation from previous human activities. In a June 3, 1999, site visit to portions of Mose 15 which have already been yarded, NMFS personnel observed that little to no ground-disturbing activities had occurred in close proximity to the first order stream channels potentially affected by felling and yarding activities. It appeared that the combination of the location and configuration of yarding corridors, existing brushy vegetation, slash, and the site topography made substantial soil disturbance in riparian areas rare and the transmission of sediment to stream was not observed. Stream sedimentation occurs under pristine watershed conditions, and is usually harmful to the persistence of salmonid populations only when it occurs outside of the natural range of variability on a large spatial scale for long periods.

The "RR" indicator should be maintained at the watershed, long-term scale because the thinning should allow the remaining trees to grow more quickly so that late-seral conditions would be achieved sooner than if the trees are allowed to self-thin. While some commercial thinning had occurred in the riparian areas of first order streams, on the June 3, 1999, NMFS visit to previously harvested/yarded portions

of the sale, it appeared that harvest was concentrated in the upslope portions of the RR. Appropriate no-cut buffers were preserved on larger stream channels. Thus, factors such as bank stability, tree density, canopy cover, large woody material, etc. are unlikely to be substantially affected in the portions of the RR most critical to anadromous fish, even in the short-term. In the long-term, the value of the RR as late-seral habitat should be enhanced or maintained by the proposed action.

The proposed action should not reduce watershed-scale long-term hydrologic recovery and should reduce long-term stream sediment input and improve long-term RR conditions without substantial short-term adverse effects. Thus, when the proposed actions are considered in the context of baseline conditions and foreseeable passive restoration of a large majority of the watershed, recovery of the watershed should not be retarded.

Based on the EA and the ACS consistency review for Mose 15, as well as a NMFS site visit, it appears that all of the relevant S&Gs would be observed by the BLM and that compliance with the nine ACS objectives would be achieved. Specifically, the proposed RR commercial thinning in Mose 15 is compliant with S&G TM-1 because it would hasten the establishment of late seral habitat. The Oxbow WA (BLM 1995b) specifically recommends that the BLM actively manage riparian buffers through commercial thinning to increase the rate of attainment of a late successional habitat forest condition in the riparian zone; Mose 15 responds to this recommendation.

Middle Umpqua River Watershed.

For this non-Key watershed, the BLM has proposed to conduct the Sagaview timber sale. As noted above, the NMFS does not concur that a project-level “degrade” is appropriate for the “turbidity” indicator for the remaining actions of this sale. For this action, the BLM determined that all of the habitat indicators would be maintained at the watershed scale, including the “turbidity” indicator.

The BLM determined that the proposed timber sale has little potential to degrade aquatic and/or riparian habitat. Under other circumstances, however, the disturbance to watersheds caused by road-related activities and tree harvest can affect peak and base flows in streams, which can in turn cause degradation of a number of indicators. Because no new road will be built to log the final 7 acres of the Sagaview sale, road construction is not a factor that would affect the flow volume.

For the remaining regeneration harvest in the sale, BLM hydrologists believe that the regeneration harvest will affect the hydrologic characteristics of the project areas by increasing annual yield, low flows, and spring and fall peak flows (but not winter peak flows). This is because regeneration timber harvest has the potential to increase the amount of water available through increased runoff and reduced evapotranspiration rates. Increased base flows would potentially be a beneficial effect for anadromous salmonids but the increase in base flow volume is not expected to be large or long-term. While increases in peak flows have the potential to alter the stream channel through scouring, the subject timber sale should not increase peak flows to the point of substantially affecting habitat indicators. The full Sagaview timber sale—a total about of 145 acres of proposed regeneration harvest with only about 7 acres remaining—would not occur in a transient snow zone so the reduction in canopy cover would not increase thawing rates in rain-on-snow events. In addition, increased fall and spring peak flows would be smaller than peak flows typically caused by winter storms (and therefore would not be channel-altering events) and the stream channels are predominantly bedrock and therefore resistant to erosion.

The BLM considers vegetative hydrologic recovery in the watershed to occur at age 30. Of the 23% of the watershed in the non-RR GFMA and Connectivity land designation, 3,553 acres (66.7%) is now greater than 30 years of age, and the majority of 474 acres of 15 to 29 year-old timber will mature into hydrologic recovery in the next decade. While the proposed regeneration harvest will reduce the amount of hydrologically-recovered Federal land in the watershed, in the long-term (the next 10 years), a net gain of more than 2,000 acres will occur on non-RR GFMA/Connectivity lands. In addition, 13,332 acres of hydrologically recovered lands not eligible for regeneration harvest now exist and most of an additional 1,974 acres of these land designation will mature into hydrologic recovery in the next

decade. Thus, even if the BLM regeneration harvests 1,000 acres in the next decade (somewhat more than is projected in the ACS Module), vegetative hydrologic recovery on the Federal ownership of the watershed will increase from about 74% to about 76%. Vegetative hydrologic recovery in the Wells Creek subwatershed was shown to be about 82% in the “304” (Middle Umpqua River) WA module (BLM 1998a).

In addition, the amount of canopy cover removed during the proposed sales is small when compared to the long-term baseline in the watershed. According to the “304” ACS Module (BLM 1998a), Federal ownership in the watershed is 22,934 acres. Of this total, 77% is ineligible for further regeneration harvest (49% is RR, another 28% is non-RR Late Successional Reserve). Therefore, more than three-fourths of the Federal forest land in the watershed (including all of the RR, which is the most important portion from an anadromous fish viewpoint) will be protected from non-restorative activities, so that the relatively small amounts of regeneration harvest, etc. proposed for GFMA lands should not retard the recovery of the watershed as a whole.

The proposed action should not reduce watershed-scale long-term hydrologic recovery or project or watershed-scale RR recovery. Thus, when the proposed actions are considered in the context of baseline conditions and foreseeable passive restoration of a large majority of the watershed, recovery of the watershed should not be retarded.

Based on the EA and ACS consistency review for the timber sales in the Middle Umpqua River watershed, it appears that all of the relevant S&Gs would be observed. Compliance with the nine ACS objectives is also adequately described by the BLM; compliance with the sixth objective, “maintain and restore instream flows...” is discussed in the previous paragraphs. The relevant Middle Umpqua River WA “desired conditions” are general in nature. As the proposed action should not retard recovery of the watershed, the “desired conditions” should not be impeded by the action in the long-term.

Middle Cow Creek Watershed.

The McLawson timber sale is proposed for the Middle Cow Creek non-Key watershed. For McLawson, the BLM determined that all of the habitat indicators would be maintained at the Middle Cow Creek watershed scale, despite the project-level “degrades” which were recorded in the Windy Creek six-field HUC. As noted under “Project-level effects,” the NMFS does not believe that the “sediment/turbidity,” “substrate,” and “road density/location” indicators would be degraded by the remaining sale activities.

While the BLM felt that the “disturbance history” indicator would be degraded at the project scale, the effects of the remaining harvest should not be significant on the long-term watershed scale because the regeneration units are very small, and the commercial thinning units should quickly regain their vegetative hydrologic recovery. According to the Middle Cow Creek WA (BLM 1998b), about 79% of the BLM-managed land in the watershed (and about 85% of the sixth field HUC) has timber greater than 30 years old. An additional 1,864 acres of BLM-managed land in the watershed (and 165 acres in the sixth field HUC) has timber from 21-30 years old; all of this timber should achieve complete hydrologic recovery in the next decade. In addition, approximately 51% of the Federal forest land in the Middle Cow Creek watershed will be protected as LSR or other withdrawn lands and an additional 43% of the remaining Federal Land (GFMA and Connectivity) would be in RRs. Therefore, nearly three-quarters of the Federal forest land in the watershed will be protected from non-restorative activities, so that the relatively small amounts of regeneration harvest, etc. proposed should not retard the recovery of the watershed as a whole.

The proposed action should not reduce watershed-scale long-term hydrologic recovery or project or watershed-scale RR recovery. Thus, when the proposed actions are considered in the context of baseline conditions and foreseeable passive restoration of a large majority of the watershed, recovery of the watershed should not be retarded.

Based on the EA and ACS Consistency Review for the proposed actions, it appears that all of the relevant S&Gs would be observed by the BLM and that compliance with the nine ACS objectives would also be achieved. The WA does not identify any particular desired actions or conditions in the Windy Creek sixth field HUC, and the proposed action does not appear to be in conflict with any of the WA's goals or objectives.

West Fork Cow Creek Watershed.

Mules Brew is proposed, in part, for the West Fork Cow Creek watershed, a Tier 1 Key watershed. For Mules Brew, the BLM determined that all of the habitat indicators would be maintained at the West Fork Cow Creek watershed scale, despite the project-level "degrades" which were recorded in the Wilson Creek sixth-field HUC. As noted under "Project-level effects," the "sediment/turbidity" and "substrate" indicators were thought to be degraded due to road renovation and decommissioning. As discussed under the Mose 15 "Project-level effects," however, these "degrades" were not thought to be consequential in the long-term and on the watershed scale. Additionally, the road renovation and decommissioning should be beneficial.

While the BLM felt that the "disturbance history" indicator would be degraded at the project scale, the effects of the proposed harvest should not be significant on the long-term watershed scale because the regeneration units are small. In addition, according to the West Fork Cow Creek WA supplement (BLM 1999), about 78% of the BLM-managed land in the watershed (and about 79% of the sixth field HUC) has timber greater than 30 years old. In addition, 1,671 acres of BLM-managed land in the watershed (and 157 acres in the sixth field HUC) was from 21-30 years old in 1999; all of this timber should achieve complete hydrologic recovery in the next decade. In addition, approximately 29% of the Federal forest land in the West Fork Cow Creek watershed will be protected as LSR or other withdrawn lands, and an additional 57% of the remaining Federal Land (GFMA and Connectivity) would be in RR. Therefore, more than two-thirds of the Federal forest land in the watershed will be protected from non-restorative activities so that the relatively small amounts of regeneration harvest, etc. proposed should not retard the recovery of the watershed as a whole.

The “RR” indicator should be maintained at the watershed, long-term scale because the hardwood clearing and conifer planting should convert the treated RR to a conifer-dominated system, which should eventually provide better instream and riparian habitat than if the hardwoods are allowed to continue to dominate the system. Appropriate no-cut buffers should preserve existing vegetation in the immediate riparian zones of the streams, so factors such as bank stability, tree density, canopy cover, large woody material, etc. are unlikely to be substantially affected in the portions of the RR most critical to anadromous fish, even in the short-term. In the long-term, the value of the RR as late-seral habitat should be enhanced or maintained by the proposed action.

The proposed action should not reduce watershed-scale long-term hydrologic recovery and should reduce long-term stream sediment input and improve long-term RR conditions without substantial short-term adverse effects. Thus, when the proposed actions are considered in the context of baseline conditions and foreseeable passive restoration of a large majority of the watershed, recovery of the watershed should not be retarded.

Based on the EA and ACS consistency review for the proposed actions, it appears that all of the relevant S&Gs would be observed by the BLM and that compliance with the nine ACS objectives would also be achieved. None of the actions proposed are inconsistent with the West Fork Cow Creek's status as a Key Watershed. The West Fork Cow Creek WA (1997) recommends several project actions such as improvement in RR late-seral structural characteristics and decommissioning of unneeded roads.

Effects Summary.

The NMFS has considered the applicability of these analyses to each of the actions identified in the BA and in this letter. The NMFS is not aware of any other special characteristics of the particular sales that would cause greater or materially different effects on the subject salmonid species and its habitat than is discussed in these references. Similarly, NMFS is not aware of any newly available information that would materially change these previous effects analyses. Portions of all the watersheds discussed in this

Opinion are privately-owned and the NMFS assumes that the cumulative effects of non-Federal land management practices will continue at similar intensities as in recent years (NMFS 1997b, *pp.* 41-42).

The effects of the actions on OC coho salmon and their habitat are presented in the BA and supplemental information prepared by the BLM, specifically in the project and watershed-level MPIs, ACS Consistency Reviews, and EAs. NMFS finds those descriptions to be adequate for this analysis. Based on this information, the NMFS does not consider these actions to be likely to result in more effects than expected or considered in NMFS (1997b). In particular, the BLM determined, and the NMFS concurred, that relevant Northwest Forest Plan S&Gs would be followed and that ACS objectives would be met at the watershed scale and over the long-term when the effects of the proposed actions are combined with the environmental baseline. This ACS consistency determination was made because the BLM showed that despite the potential short-term adverse effects of their proposed actions, watershed habitat indicators would be maintained or restored over the long-term.

The NMFS expects that ACS objectives which may be affected by the subject actions will be met for the following reasons: (1) Potential sediment input and hydrologic effects from the small amount of proposed temporary road construction will be minimized by implementation of appropriate mitigation measures and temporary road construction will not occur in RR; (2) potential sediment input from proposed road renovation and decommissioning will be minimized by implementation of appropriate Best Management Practices (specific procedures that minimize the adverse environmental effects of activities) and the long-term effects of these actions should be beneficial because of reduced sediment and hydrologic effects from existing and former roads; (3) thinning and other treatments in RR in Mose 15 and Mules Brew should accelerate attainment of late seral conditions in the sale areas while yarding through RR in Mose 15 should not have a substantial effect on sedimentation, bank stability, shade, large woody material, or hydrologic recovery—otherwise, no vegetation treatments or timber harvest will occur in RR); (4) the ground compacting activity associated with timber sales (partial suspension and tractor yarding) will be mitigated through ripping and water-barring of skid trails and little of the yarding activity will occur in RR; and (5) the amount of canopy cover removed in the timber sales would be small compared to the existing canopy cover at both the project and watershed scales,

and with passive restoration which will occur in the watersheds over the long-term, should not impair recovery of the watersheds. Despite the minor, short-term adverse effects, these actions maintain or restore essential habitat functions and will not impede recovery of salmonid habitat, which is a long-term goal of the Northwest Forest Plan.

Section 7(a)(2) Determinations

The NMFS concludes that when the effects of these proposed site specific actions are added to the environmental baseline and cumulative effects occurring in the relevant action areas, they are not likely to jeopardize the continued existence of OC coho salmon or OC steelhead.

Additionally, the NMFS concludes that the proposed actions would not cause adverse modification or destruction of proposed OC coho critical habitat. This is because our "no jeopardy" conclusion is based on the effects of the actions on OC coho salmon habitat and because the "adverse modification or destruction of habitat" standard is defined similarly to the "jeopardy" standard. Because we have determined that the actions would not jeopardize the continued existence of OC coho salmon, it follows that OC coho proposed critical habitat would not be adversely modified or destroyed.

In reaching these conclusions, NMFS has utilized the best scientific and commercial data available as documented herein and by the BA supplement information and documents incorporated by reference.

Incidental Take Statement

Effects resulting from timber sales and road-related activities are expected to be the potential sources of incidental take associated with the proposed actions covered by this Opinion. Because of the implementation of appropriate mitigation measures included in the proposed actions, sediment and hydrologic impacts are expected to be minimized.

Adverse effects of management actions such as these are largely unquantifiable in the short-term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though the NMFS expects some low level of incidental take to occur due to these actions, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species themselves. The adverse effects of the actions, however, should be confined to the sub-watersheds in which the actions are proposed to occur.

The incidental take statement in NMFS (1997b) provided reasonable and prudent measures and terms and conditions to avoid or minimize the take of listed salmonids from certain categories of beneficial and road-related site-specific actions (pages 64 and 70). NMFS hereby applies the findings, reasonable and prudent measures, and terms and conditions set forth in the Incidental Take Statement of NMFS (1997b) to the relevant site-specific actions addressed in this Opinion. NMFS has determined that no further reasonable and prudent measures or terms and conditions are necessary to minimize or avoid the incidental take of listed salmon from the actions considered in this Opinion.

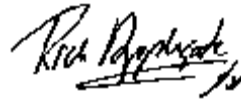
Conclusions

This concludes formal consultation on these actions in accordance with 50 CFR 402.14(b)(1).

The BLM must reinitiate this ESA consultation if: (1) The amount or extent of taking specified in the incidental take statement above is exceeded; (2) new information reveals effects of the action that may affect listed species in a way not previously considered; (3) the action is modified in a manner that causes an effect to the listed species that was not previously considered; or (4) a new species is listed or critical habitat designated that may be affected by identified action.

If you have any questions, please contact Dan Kenney of my staff at (541) 957-3385.

Sincerely,

A handwritten signature in black ink, appearing to read "William Stelle, Jr.", with a stylized flourish at the end.

William Stelle, Jr.
Regional Administrator

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